

TURTLE FISHING IN THE SEA AROUND KRUSADAI ISLAND

BY

G. K. KURIYAN

Marine Biological Station, Krusadai Island, Pamban
Gulf of Mannar

(With a text figure)

Turtle fishing has been practised for ages on the south-eastern shores of the Indian Peninsula, particularly around Krusadai Island, where it has long been conducted by non-Hindu fishermen. Hindu fishermen do not generally fish for turtles; their indifference being attributed to their religious belief that the second of the *dasavatars* had the form of a turtle¹.

If properly organised and developed, the fishery can be made economically very beneficial. At present between 800 to 1,000 turtles are annually landed in Krusadai area itself, where the fishery goes on throughout the year.

Four species of turtles have been identified in the commercial catches. They are:

1. The Green Turtle, *Chelonia mydas* Linne,
2. The Hawksbill Turtle, *Eretmochelys imbricata* Linne,
3. The Olive Logger-head Turtle, *Caretta caretta olivacea* Eschscholtz,
4. The Brown Logger-head Turtle, *Caretta caretta gigas* Deraniyagala.

METHODS OF CAPTURE. Turtles are caught by special types of wall nets. These nets are made of the fibres of *Acacia planifrons* W. & A., or of cotton yarn².

Stems of acacia are cut into pieces of convenient size. The bark is peeled off and soaked in water to render easy the extraction of fibres. The extraction is done by stripping of the outer greenish layer of the bark with the finger nails. The fibres are then spun into the required thickness, which varies from $\frac{1}{2}$ to $\frac{3}{4}$ inch. Yarn nets, being more costly were scarcely used during the war years.

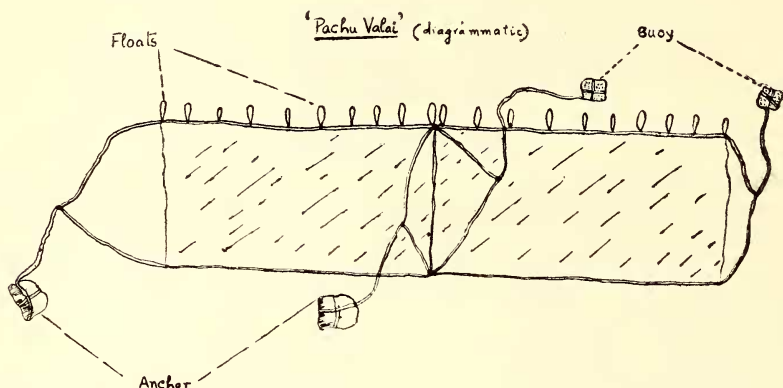
There are two important types of nets in use. These are known as 'Pachu valai' and 'Kattu valai' in Tamil and have the same general structure, but differ in the method of their employment. Both nets require between 5 to 8 men each for operation.

Pachu valai (text fig.): This net is rectangular, 70 ft. long and 9 ft. high, with a 2 inch-square mesh. The upper edge has a hauling rope (head rope) extending beyond the length of the net. There is

¹ But see footnote 5 on p. 529 re tortoise flesh being permissible to Brahmins.—Eps.

² The fibres from the bark of *Calotropis* are also used in making nets. From the reports that could be gathered at Pamban, I understand that these nets are more popular in the Tuticorin area.

a corresponding foot rope at the lower edge of the net. The extensions of the head and the foot ropes are tied together at each extremity. At one end a long rope with an anchoring weight (stone) is attached and at the other another rope with a conspicuous buoy.



'Pachu valai' joined together for operation. The relative positions of the anchor, buoy and floats are indicated.

The head rope is also provided with 10 wooden floats of small size about 7 ft. apart.

The net is usually cast or set at night at the entrance of two parallel coral reefs and is hauled in after the lapse of 12 to 18 hours. The anchoring weight holds the net in position, while the rope with the buoy helps location of the net and its removal. The upper edge of the net lies on the surface of the water on account of the floats, its own weight enabling it to stay like a porous and flexible wall in the water. The struggle of a turtle entangled in the meshes causes the lower end of the net to roll up and to envelop it completely.

If the gap between the reefs is sufficiently wide, two such nets (each with anchor, buoy and floats) are used. The nearer ends of these nets are joined by a flimsy cord, which may easily be snapped, when a turtle is entangled.

A solitary turtle per net is the usual haul. Occasionally, with luck, 2 or 3 turtles are caught in a single net. But there are occasions when there is no catch at all. Catches are larger on darker nights and about the time of the new-moon.

Kattu valai: This net is longer and is devoid of the anchor and buoy. Fishing with this net is also conducted between two coral reefs, but in a much shallower area. Six fishermen usually operate the net. Four of them get into the water and the remaining two wait in a canoe. Two of those in the water stretch the net taut, while those in the canoe beat the surface of the water or the sides of their vessel to drive turtles into the net. The remaining two in the water haul the catch ashore. If more people are available the operation will be easier and more effective. The net is usually laid on full-moon nights. The fishing is generally conducted for two hours, but catches are not encouraging.

Pachu valai is more popular among the fishermen in the Kursadai area.

FOOD AND BIONOMICS: The Green Turtle is a vegetable feeder, subsisting on marine algae such as *Gracillaria*, *Sargassum*, and the marine phanerogam *Cymodocea*. *Gracillaria* seems to be its favourite diet.

Deraniyagala (1939)¹ remarked that this species is omnivorous but essentially vegetarian, and feeds upon *Cymodocea* and *Thalassia* also *Zostera*, *Halophila* and other algae. Parts of the sea with luxuriant submerged vegetation are usually favourable grounds for the fishery.

The Hawksbill Turtle is carnivorous and the Olive Logger-head Turtle is reported to have cannibalistic tendencies, especially when young. (Deraniyagala, 1939).

Both the carapace and the plastron of most of the Green Turtles examined in the laboratory of Krusadai Biological Station were found to be infested with Turtle Barnacle, *Chelonobia testudinaria* Linne.

Deraniyagala (1939) has described the breeding habits of turtles in Ceylon. Chacko (1942)² has indicated the changes in the details of the nesting habits of the Olive Logger-head Turtle in Krusadai Island. Two nests of this turtle were observed in October 1949 on Shingle Island above the high-tide mark. The number of eggs in each were 40 and 50. The numbers are very much below those recorded by Deraniyagala (1939) and Chacko (1942). Though the mother turtle 'tries to hide all traces of the packing of her eggs' as observed by Chacko (1942), the egg nests could be detected by the loose nature of the soil in the covered burrow. The thrust of a stick into the sand enabled detection of the looseness of the packed soil and thus helped the location of the nest. This method is also adopted by the turtle nest hunters in Krusadai area.

ECONOMIC IMPORTANCE OF TURTLE FISHING: The majority of the turtles landed in the Krusadai area are Green Turtles known as '*Peramai*' (Tamil). They are edible. The other turtles are seldom eaten.

The catches of the Green Turtle are graded for sale according to the maximum width of the plastron into three or four sets as follows:

Set	Width of Plastron	Prices in Rupees	
		Pre-war	Post-war
1.	Over 26"	12	25
2.	Between 21" — 26"	6	15
3.	Between 16" — 21"	4	12
4.	Under 16"	4	6

¹ Deraniyagala, P.E.P. (1939) Tetrapod Reptiles of Ceylon. Vol. 1.

² Chacko, P. I. (1942). *Cur. Sci.* 12 (2): 60.

The price of turtles has risen after the war, but fishing and the catches remain at pre-war level.

The edible variety is exported mainly to Ceylon, where a lucrative market exists for it. The absence of any excise duty for exporting live turtles is a great encouragement to the trade. Live turtle wells are maintained at Pamban to ensure a regular supply for the trade.

Inedible turtles are not entirely useless, their shells providing the bases of a minor cottage industry for the manufacture of crude ornaments.

Oil from turtles is extracted by melting the fat in pans and sieving it through coarse cloth. The extracted oil is used to smear country crafts (Chacko 1942) and to make crude medicinal preparations. The oil of the Green Turtle is sometimes used as a substitute for ghee. The cost of oil at Pamban varies between 5 to 7 annas a pint.

Transport of live turtles by rail and boat is easy if they are kept upside down. This position renders them practically immobile. They are hardy and are known to have thriven well outside their native element for well over a month.

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